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via electronic mail and FedEx to:

San Luis Obispo
Department of Planning and Building
Planning Commission Secretary
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Re: Freeport-McMoRan Oil & Gas, LLC, Arroyo Grande Oil Field, Application to Extend Phase IV CUP # D010386D

To Whom It May Concern,

The Center for Biological Diversity ("the Center") submits comments in opposition to the request by Freeport-McMoRan ("FMOG") for an extension of its conditional use permit ("CUP") for its Phase IV expansion for another three years in order to allow FMOG to build 31 new wells at the Arroyo Grande Oil Field ("AGOF"). FMOG's CUP expired in August 2015, and FMOG now seeks to extend its terms from the original ten years to thirteen. Since the County of San Luis Obispo ("County") certified the Environmental Impact Report ("EIR") for the Phase IV expansion project in 2004, however, significant new information about the health and environmental harms of oil drilling have become known, and new regulations governing oil and gas drilling have been adopted. In addition, the State has found that at least eight of the injection wells operating at the AGOF are illegally injecting into groundwater that has not been exempted from the federal protections of the Safe Drinking Water Act. The State has also recently found

that many wells across California do not meet current integrity criteria and have not been reviewed or inspected in many years. In light of all of this new and serious information, the County cannot rely on a decade-old EIR to extend FMOG's CUP to drill 31 new wells. Given that as of 2014, the total number of active (non-plugged) and new wells in all of San Luis Obispo County was approximately 400, adding 31 wells to one oil field is significant.¹ Moreover, FMOG plans to add another 450 wells in Phase V of its expansion plan, and any evaluation of impacts of these 31 wells must take into account the foreseeable Phase V expansion.

I. The County Cannot Extend FMOG's CUP, But Rather Must Issue a New CUP for the 31 Wells

The County cannot issue FMOG a CUP extension because the original conditions required that FMOG receive a new CUP for Phase IV work not completed, and because new information about environmental conditions since 2004 negate the County criteria for issuing CUP extensions.

In 2005, the County issued FMOG a CUP for its Phase IV expansion. This Phase IV project included:

- Grading of 4 new well pads (total disturbance of about 2.68 acres);
- Grading on 18 existing well pads (total disturbance of about 4.22 acres);
- Construction of 95 production wells;
- Construction of 30 injection wells;
- Construction of 3 new steam generators (previously approved in the 1994 Phase III Development Plan); and,
- Increasing production of marketable quality crude oil from 1,800 – 1,900 barrels of per day (BOPD) to 5,000 BOPD.

The CUP expired in August 2015, and FMOG has applied for an extension of the permit in order to build 31 (20 production, 8 steam injection, and 3 water disposal) Phase IV wells that have not yet been built.²

¹ Natural Resources Defense Council, *Drilling in California: Who's at Risk?* (October 2014) ("NRDC, 2014"), Appendix II, Table 1.

² Freeport MacMoRan Oil and Gas, *Conditional Use Permit Application to extend 10-year time limit on Arroyo Grande Phase IV* (July 20, 2015), San Luis Obispo Department of Planning and Building ("Phase IV CUP

The County cannot extend the CUP for an additional three years to build 31 new wells. The Conditions of Approval for the Phase IV CUP specifically state that "[a]t the end of the ten years, any wells or steam generators not yet completed shall require review and approval of a new Conditional Use Permit."³ The County staff now proposes to "amend" this condition to state that "[a]t the end of the thirteen years, with a start date of August 9, 2005 and end date of August 9, 2018, any wells or steam generators not yet completed shall require review and approval of a new Conditional Use Permit."⁴ The County cannot simply amend its earlier conditions to explicitly require the opposite of what the condition originally stated; otherwise, the original condition would have no meaning.

CUPs expire for a reason. Conditions, knowledge, and regulations change over time. In San Luis Obispo County, CUPs normally expire 24 months from the issuance date.⁵ In this case, the County gave then PXP (now FMOG) ten years--five times as long as usual--to build its Phase IV expansion. The fact that PXP and FMOG did not finish its project within the decade provided does not now provide a good reason to issue an extension. As described below, a significant amount of new information about the safety and impacts of oil drilling has been ascertained within the last ten years, and it is unreasonable to allow FMOG to defy the original condition of its CUP that it must obtain a new CUP for unfinished portions of the project after ten years.

Indeed, the County Code allows extensions (normally of 2-year, not 10-year, permits) in very limited circumstances, including:

1. There have been no changes to the provisions of the Land Use Element or Land Use Ordinance applicable to the project since the approval of the land use permit; or
2. There have been no changes in the character of the site or its surroundings that affect how the standards of the Land Use Element or Land Use Ordinance apply to the project; or
3. There have been no changes to the capacities of community resources, including but not limited to water supply, sewage treatment or disposal facilities, roads or schools such that there is no longer sufficient remaining capacity to serve the project.⁶

Extension"), available at: http://www.slocounty.ca.gov/Assets/PL/referrals/south+county/DRC2015-00002_FREEPORT-MCMORAN_CUP_MODIFICATION.pdf.

³ Staff Report for Phase IV CUP, Exhibit B, "Conditions of Approval."

⁴ DRC2015-00002 (Freeport-McMoRan), *Proposed Conditions of Approval* (2015), Phase IV CUP, Exhibit B.

⁵ San Luis Obispo Land Use Ordinance, County Code sec. 22.64.060

⁶ *Id.* 22.64.070(A).

Further, it is clearly the intention of the County Code that the three CUP 12-month extensions allowed under §22.64.070 be granted one at a time and annually, not all together as Freeport MacMoRan has requested. If the Commission is inclined to grant the Phase IV CUP Extension, which it should not, it can only grant only the first 12-month extension.

In the last decade, there have been changes--at the very least--to water supplies in the community from a multi-year severe drought that is causing water wells to dry up and people to dig deeper wells into new groundwater sources in order to find water for domestic use. Given that California is currently in the fourth year of a historic drought, and communities are more dependent than ever on underground water resources, it is vital that the County act to ensure our groundwater is protected from the toxic waste generated by oil and gas production processes. As the attached and incorporated comments from the Center for Biological Diversity and others describe,⁷ the most recent data available as of October 2014 shows that groundwater levels have decreased in many basins throughout the state since spring 2013, and more notably since spring 2010; basins with notable decreases in groundwater levels are in the Sacramento River, San Joaquin River, Tulare Lake, San Francisco Bay, **Central Coast**, and South Coast hydrologic regions.⁸ Indeed, there is precedent on the Central Coast for a scenario in which drought causes a major increase in reliance on groundwater supplies: during the last major drought in the late 1980s, the City of San Luis Obispo began pumping groundwater for the first time in history, and by 1990 it received 40% of its water from groundwater.⁹

Even the California Division of Oil, Gas, and Geothermal Resources ("DOGGR") acknowledges that because "some water supply wells are being drilled increasingly deeper, *supporting data must be current and accurate.*"¹⁰ Groundwater in agricultural areas of the State, including the coastal regions, is particularly vulnerable during a drought because it is used to replace unavailable surface water supplies for agriculture. Increased pumping already stresses

⁷ Center for Biological Diversity, *Comments to California Division of Oil, Gas, and Geothermal Resources (DOGGR) re: Arroyo Grande Oil Field Aquifer Exemption Request* (September 21, 2015), and Center for Biological Diversity et al., Comment letter sign-on (September 28, 2015), attached and incorporated herein.

⁸ Cal. Department of Water Resources, *Public Update for Drought Response: Groundwater Basins with Potential Water Shortages, Gaps in Groundwater Monitoring, Monitoring of Land Subsidence, and Agricultural Land Falling* (November 2014) ("DWR, 2014"), pp. 5, 11 (emphasis added), available at: http://water.ca.gov/waterconditions/docs/DWR_PublicUpdateforDroughtResponse_GroundwaterBasins.pdf.

⁹ Halverson, Nathan, *What will happen to a sinking California? Just ask San Luis Obispo*, *Grist* (June 24, 2015) (Halverson), available at:

<http://grist.org/climate-energy/what-will-happen-to-a-sinking-california-just-ask-san-luis-obispo/>.

¹⁰ DOGGR and SWRCB, *Aquifer Exemption Process Guidance Document* (April 10, 2015) ("DOGGR Aquifer Exemption Guidance"), p. 5 (emphasis added).

this “last resort” resource because it decreases groundwater levels below wells (“overdraft”), requires more and deeper wells, reduces groundwater quality (by drawing waters from more sources increasing the likelihood of cross-contamination), increases land subsidence (irreversibly reducing the storage capacity of the aquifer network), and threatens drinking water supplies to the many communities that depend mostly or entirely on groundwater for their potable water supply.¹¹ Newly deepened wells reduce the water pressure in existing shallow wells, forcing nearby users to also drill deeper wells as the existing wells risk running dry. In addition, Californians have been “forced . . . to use water of lesser quality to meet their needs.”¹² This increased pumping and decreased surface water supplies make any existing aquifers that are available for potential use – in agriculture or as a drinking source – that much more valuable during the current drought.

The drought has directly affected the water resources of San Luis Obispo County. On March 11, 2014, the San Luis Obispo County Board of Supervisors adopted a resolution proclaiming a local emergency due to drought conditions in the County.¹³ The County has proposed a Countywide Water Conservation Program (“WCP”) in response to the fact that “[w]ater levels in groundwater basins and surface lakes and reservoirs throughout the County have been in decline for over a decade, and the current ‘exceptional drought’ exacerbated this decline.”¹⁴ As a result, the Board of Supervisors has declared three groundwater basins in the County at Level III severity, which means “groundwater demand has met or exceeded the dependable supply.”¹⁵ Clearly there has been a major change in community resources (available water) since 2004 as a result of the drought, and that change is leading to serious environmental impacts. In addition, the WCP would be an amendment to the General Plan and the County Code. The County has not evaluated the effects of extending the CUP in light of the changes in capacity of water supplies, or consistency with the General Plan or County Code amendments; therefore, the County cannot extend it.

¹¹ See generally, DWR, 2014.

¹² DOGGR, *Aquifer Exemption Guidance*, p. 5; Krieger, Lisa M., *California Drought: San Joaquin Valley Sinking as Farmers Race to Tap Aquifer*, San Jose Mercury News (August 19, 2015), available at: http://www.mercurynews.com/drought/ci_25447586/california-drought-san-joaquin-valley-sinking-farmers-race.

¹³ Resolution No. 2014-64 (March 11, 2014), available at: <http://www.slocounty.ca.gov/Assets/AD/images/Resolution+No.+2014-64.pdf>.

¹⁴ Countywide Water Conservation FEIR, Executive Summary, p. ES-1, available at: <http://www.slocounty.ca.gov/planning/water-amendments/environmental-review.htm>.

¹⁵ *Id.*

What is more, we now know (and did not know ten years ago) that AGOF's injection operations into the aquifer are in violation of the federal Safe Drinking Water Act. In 2011, the U.S. EPA commissioned a report on California's Underground Injection Control Program ("UIC Program") ("Horsley Witten Report"). That report found, *inter alia*, that state regulations did not protect aquifers as required by the SDWA and the State's primacy agreement.¹⁶ As of early February 2015, California had "identified approximately 2,500 wastewater disposal and enhanced oil recovery wells injecting into potentially non-exempt zones, 2,100 of which [were] still active. Of these, there are approximately 140 active wastewater disposal wells injecting into aquifers with Total Dissolved Solids (TDS) less than 3,000 mg/l, a key indicator under the federal Safe Drinking Water Act (SDWA) of higher quality water."¹⁷ These include at least eight injection wells *currently* operating at the AGOF.¹⁸ The extension application contains no information on where these 31 wells--including 11 injection wells--will be, and whether they even comply with the legal requirements of the Safe Drinking Water Act, something not contemplated when the original CUP was issued. The County cannot issue or extend a CUP or otherwise condone illegal activity.

This illegal injection at the AGOF is taking place within a context of a failed effort to regulate oil and gas throughout the state. This month, DOGGR released a self-audit that documented a breakdown in its underground injection control program. It found, among other deficiencies, a failure to require Area of Review evaluations to ensure that the injection site is isolated from other sources of groundwater prior to issuing well permits; failure to conduct required annual reviews of permitted wells; missing or non-existent quality control data; and--based on only a small sample of wells--hundreds of wells that failed to meet current integrity criteria, were potential sources of pollution, or required remediation.¹⁹ As a result, DOGGR

¹⁶ David Albright, Manager, Ground Water Office, US EPA Region IX, Letter to Elena Miller, State Oil and Gas Supervisor, DOGGR (July 18, 2011) ("July 18, 2011 letter").

¹⁷ CalEPA Review of UIC Program, Memorandum from Matthew Rodriguez, Secretary of CalEPA to Cliff Rechtschaffen, Senior Advisor, Office of the Governor, and John Laird, Secretary, California Natural Resources Agency (March 2, 2015) ("March 2, 2015 CalEPA Memorandum"), p. 1, *available at*: <http://www.calepa.ca.gov/Publications/Reports/2015/UICFindings.pdf>.

¹⁸ Steve Bohlen, State Oil & Gas Supervisor, DOGGR and Jonathan Bishop, Chief Deputy Director, State Water Resources Control Board, Letter to Michael Montgomery, US EPA, Region IX (October 15, 2015), Attachment A, *available at*: <ftp://ftp.consrv.ca.gov/pub/oil/UIC%20Files/20151015%20-%20Joint%20Letter%20to%20US%20EPA%20Cat%201%20Well%20Review%20Findings.pdf>.

¹⁹ DOGGR, *Underground Injection Control Program Report on Permitting and Program Assessment, Reporting Period of Calendar Years 2011-2014, Prepared pursuant to Senate Bill 855 (2010)* (October 2015) ("SB 855 Report"), *available at*: <ftp://ftp.consrv.ca.gov/pub/oil/Publications/SB%20855%20Report%2010-08-2015.pdf>.

stated that there was an immediate need for new regulations and procedures regarding well construction, zone of endangerment analyses, inspections, remediation, data management, and other requirements to ensure minimal protection from dangerous well production activities.²⁰ New regulations further include well stimulation regulations that went into effect in July 2015, and a proposal to adopt new regulations for cyclic steam operations (which occur at the AGOF) because of the unique risks it poses to bore integrity and even worker safety.²¹

As a result of new environmental conditions and more limited resources due to the drought, new water management protocols that will be required under the County WCP, new information on lax oil and gas regulatory oversight, and new regulations coming into play that are essential for providing the most basic, minimum protections for health and the environment, the County cannot issue a CUP extension for the new wells. The oil field is subject to state, federal, and county laws that have not been regularly enforced but must be now--such as the Safe Drinking Water Act--and to regulations that are currently being developed and implemented, as described above. At the very least, before summarily finding that the project meets current County Code requirements despite the fact that the application provides no support for this proposition and, indeed, fails to meet the County's own criteria for issuing permit extensions, the County must ensure that it is not permitting illegal wells or condoning harmful activity. The CUP extension, therefore, must be denied.

II. The County Must Require a Subsequent EIR Before Extending or Issuing FMOG a Permit to Drill More Wells

Even if the County believes that the CUP extension is warranted under the County Code (which it is not), as a result of the new regulatory information and new environmental conditions described above, and new scientific information that has become available since the original EIR was certified in 2004, the County must prepare a supplemental or subsequent EIR (SEIR) before extending the CUP (or issuing a new CUP) for the 31 new wells. An SEIR is required when substantial changes occur in circumstances under which the project is being undertaken that will require major revisions in the EIR, or new information of substantial importance to the project

²⁰ *Id.*; DOGGR, *Renewal Plan for Oil and Gas Regulation: Changing Past Practices to Usher in a New Era of Oil and Gas Regulation* (October 2015) ("Renewal Plan"), available at: <ftp://ftp.consrv.ca.gov/pub/oil/Publications/Renewal%20Plan%2010-08-2015.pdf>.

²¹ Renewal Plan, pp. 9-10.

that was not known and could not have been known when the EIR was certified as complete becomes available.²² Both circumstances exist here.

A change in circumstances requires a SEIR when the change is substantial, involves new or more significant impacts that require significant changes to the EIR, and the impacts were not covered in previous EIR.²³ Meanwhile, "[n]ew information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified . . . shows any of the following:"

- (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.²⁴

Here, the multi-year, serious drought coupled with mandatory water restrictions, new information about the poor integrity of existing wells and nearly non-existent environmental and safety regulatory oversight of oil operations, and new scientific information about the harmful impacts of oil extraction activities have come to light in the last ten years. This new information should result in new requirements and mitigation measures to reduce newly known or more severe significant impacts not previously analyzed. Therefore, a SEIR is required.

First, as described above, there is significant and substantial new information about the breakdown of the regulatory regime under which oil drilling has taken place in California up until now. FMOG's desire to drill the 31 new wells must be re-evaluated within this new context, which will provide new requirements and mitigation measures on wells and oil operations. The

²² Cal. Pub. Res. Code § 21166; CEQA Guidelines § 15162(a). At the very least, the County must prepare a supplemental EIR for the 31 wells, given all of the new information that has come to light in the last decade. CEQA Guidelines § 15163.

²³ CEQA Guidelines § 15162(a)(2).

²⁴ CEQA Guidelines § 15162(a)(3).

recent reports issued by DOGGR (discussed *supra*) demonstrate that its failure to regulate and enforce oil drilling has resulted in thousands of wells with potentially compromised integrity that can pose serious threats to the environment. Improper well construction, maintenance, or plugging can allow oil and gas "fluids and naturally occurring toxic and radioactive materials to migrate into shallower groundwater aquifers."²⁵

Second, also as described above, the drought has created a substantial change in circumstances that will result in more serious adverse impacts than were understood when the 2004 EIR was certified. Eleven of the new wells will be injection wells, and their potentially significant impacts to San Luis Obispo's dwindling and precious water supplies must be evaluated before they can be permitted. Even the original 2004 EIR noted the potential for injection wells at this site to impact other beneficial and potable groundwater: "[w]astewater generated through the petroleum recovery process would be reinjected into wastewater injection wells. This wastewater reinjection could impact shallow groundwater supplies if the wastewater came in contact with groundwater used for domestic purposes. If this occurred, the water quality of down-gradient public and municipal water production wells could be degraded."²⁶ Given the increasingly scarce availability of water over the last few years, these potential impacts will be even more devastating and significant than previously believed.²⁷

Third, we now have an incredible amount of new scientific information and knowledge about the actual impacts of oil operations on the environment, health, and safety that we did not have in 2004. This includes, for instance, new information on groundwater impacts, such as the

²⁵ NRDC, 2015, p. 7, citing Ingraffea, Anthony, et al., *Assessment and Risk Analysis of Casing and Cement Impairment in Oil and Gas Wells in Pennsylvania, 2000–2012*, *Proceedings of the National Academy of Sciences*, June 2014, doi:10.1073/pnas.1323422111.

²⁶ San Luis Obispo County Department of Planning Building, and Padre Associates, Inc., *Final Plains Exploration and Production Phase IV Development Plan Environmental Impact Report* (September 2004) ("Phase IV EIR"), section 5.7.2.3, available at: <http://www.slocounty.ca.gov/Assets/PL/environmental/plains/Historical+Documents/2004+-+Phase+IV+EIR/phpEIR2004.pdf>.

²⁷ See generally: California Council of Science and Technology, *Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulation* (Jul. 2015) ("CCST Report"), Vol. II, Ch. 2; U.S. EPA. (2015); U.S. Environmental Protection Agency, Washington, DC, *Assessment of the potential impacts of hydraulic fracturing for oil and gas on drinking water resources* (External review draft), EPA/600/R-15/047, 2015, available at: <http://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651>; Physicians for Social Responsibility, *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)*, 3rd ed. (Oct. 14, 2015) ("PSR Compendium of Findings, 2015"), pp. 26-52. Although these reports evaluate hydraulic fracturing and well stimulation, many of the conclusions also apply to other oil extraction techniques, such as steam flooding, cyclic steam, horizontal drilling, injection, and other techniques that occur at the AGOF.

fact that changes in pressure, earthquakes, and subsidence from injection and dewatering²⁸ can cause potential changes to the water flow paths that contribute to beneficial use reservoirs;²⁹ in other words, they can cause groundwater to shift its flow path such that an aquifer once thought isolated could now contaminate beneficial use groundwater. Further, known and unknown abandoned wells and compromised wells can create pathways to contamination.³⁰ These and other potential vectors for groundwater contamination exist in the AGOF and have not been adequately studied. In addition, drilling itself can create conduits to previously isolated sources of water.³¹ A recent report finds that "because the oil-containing rock layers in California are located closer to the surface than in other states, the state's groundwater is potentially vulnerable to chemical contamination through vertical faults and fissures and via old and abandoned wells."³² Indeed, the initial study for the next phase (Phase V) expansion of the AGOF to add up to 450 wells confirms this: "[a]s this formation is relatively close to the surface, potential impacts increase to nearby potable groundwater tables."³³

We now know, too, that the risk of well blow outs, spills, and other accidents that can contaminate soil and groundwater is much higher than previously believed. A recent analysis estimated that "[o]nshore production sites leaked oil, produced water and other material at least 9,728 times last year, releasing 716,844 barrels of fluid.... In states where comparisons could be made, the number of spills jumped 20 percent between 2013 and 2014."³⁴ Several recent studies have found methane, fracking fluids, brine, and heavy metals, among other oil-related pollution,

²⁸ FMOG is gradually dewatering the reservoir under the AGOF. See FMOG, *Arroyo Grande Oil Field, San Luis Obispo County, California, Dollie Sands, Pismo Formation Aquifer Exemption Application* to DOGGR (2015) ("FMOG aquifer exemption application"), pp. 17, 21, available at: ftp://ftp.consrv.ca.gov/pub/oil/Aquifer_Exemptions/County/San_Luis_Obispo/Arroyo_Grande_Oilfield/Dollie_Sands_Pismo_Formation/Arroyo%20Grande%20Oilfield%20Edna%20Member%20Dollie%20Sands%20Pismo%20Formation%20Aquifer%20Exemption%20Application.pdf.

²⁹ CCST Report, Vol. II, Ch. 2, pp. pp. 104-109, 117-121, 124, 125-126, 151, 165.

³⁰ CCST Report, Vol. II, Ch. 2, pp. 104-109, 122-125, 159; United State Government Accountability Office (US GAO), *EPA Program to Protect Underground Sources from Injection of Fluids Associated With Oil and Gas Production Needs Improvement*, Report to Congressional Requesters (GAO-14-555, June 2014) ("GAO Report"), pp. 23-24.

³¹ CCST Report, Vol. II, Ch. 2, pp. 104-109.

³² PSR Compilation, p. 28. See also CCST Report, Summary Report, available at: <http://ccst.us/publications/2015/2015SB4summary.pdf>

³³ San Luis Obispo County Department of Planning and Building, *Initial Study, Phase V Oilfield Expansion Conditional Use Permit* (November 2012) ("Phase V Initial Study"), p. 22, available at: <http://www.slocounty.ca.gov/Assets/PL/environmental/plains/Environmental/initialstudy.pdf>.

³⁴ NRDC, 2014, p. 6; King, Pamela, and Mike Soraghan, "U.S. spill count rose 20% in 2014," *EnergyWire*, September 29, 2015, available at <http://www.eenews.net/energywire/stories/1060025432/search?keyword=spills+up+18+Percent+in+U.S.+in+2013> (accessed October 21, 2015).

in water samples from nearby drinking water wells and surface water bodies near oil and gas sites.³⁵ Moreover, "naturally occurring radioactive materials" brought to the surface with oil and gas produced water also poses risks to oil field workers, neighbors, and the environment because it can "accumulate in pipes and other well equipment, build up in sediments downstream of wastewater treatment facilities [such as the one at the AGOF], and contaminate the air and soil when wastewater is sprayed on roads."³⁶

New information that has come to light since the 2004 EIR not only reveals increased risks of oil extraction to soil and water resources, but also to air, noise, odors, traffic, and geology (including earthquakes and subsidence).³⁷ Air pollution has been extensively and widely linked to all phases of oil and gas development and production.³⁸ Emissions include: toxic chemicals such as benzene, toluene, ethylbenzene, xylene, and hydrogen sulfide; criteria pollutants that contribute to the formation of ground-level ozone (which harms the respiratory system) such as VOCs and NOx; and, greenhouse gases such as methane, NOx, and CO₂.³⁹ Improper plugging or idling of wells may continue to release hydrocarbons, methane, and other VOCs even after a well has become idle.⁴⁰ Health effects from exposure to these pollutants cause a wide

³⁵ See e.g., NRDC, 2014, p. 7; Llewellyn, Garth T., *Evaluating a Groundwater Supply Contamination Incident Attributed to Marcellus Shale Gas Development*, Proceedings of the National Academy of Sciences 112 (20) (2015): 6325–6330, doi: 10.1073/pnas.1420279112; Osborn, Stephen G., et al., *Methane Contamination of Drinking Water Accompanying Gas-Well Drilling and Hydraulic Fracturing*, Proceedings of the National Academy of Sciences 108 (20) (2011): 8172–76, doi:www.pnas.org/cgi/doi/10.1073/pnas.1100682108; Fontenot, Brian E., et al., *An Evaluation of Water Quality in Private Drinking Water Wells Near Natural Gas Extraction Sites in the Barnett Shale Formation*, Environmental Science & Technology 47 (2013): 10032–40, doi:dx.doi.org/10.1021/es4011724.

³⁶ NRDC, 2014, p. 9; Skalak, Katherine J., et al., *Surface Disposal of Produced Waters in Western and Southwestern Pennsylvania: Potential for Accumulation of Alkali-Earth Elements in Sediments*, International Journal of Coal Geology, 2013, doi:10.1016/j.coal.2013.12.001 (as cited in NRDC 2014).

³⁷ See generally, PSR Compendium of Findings, 2015; CCST Report.

³⁸ See generally, CCST Report, Vol. II, Ch. 3. See also PSR Compendium of Findings, 2015, pp. 14-26, describing the many studies from the previous five years documenting new information about increased risks of and from air pollution from oil operations.

³⁹ Some of the many recent studies oil operations and air pollution include: McKenzie, Lisa M. et al., *Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources*, Science of the Total Environment 424 (2012): 79–87, doi:10.1016/j.scitotenv.2012.02.018 (as cited in NRDC 2014 endnote 35); Eastern Research Group (ERG) and Sage Environmental Consulting LP, *City of Fort Worth Natural Gas Air Quality Study*, 2012, Fort Worth, TX ; Gilman, Jessica, et al., *Source Signature of Volatile Organic Compounds (VOCs) from Oil and Natural Gas Operations in Northeastern Colorado*, Environmental Science & Technology 47 (3) (2013): 1297–1305, doi:10.1021/es304119a.

⁴⁰ David T. Allen, *Atmospheric Emissions and Air Quality Impacts from Natural Gas Production and Use*, Annual Review of Chemical and Biomolecular Engineering, February 2014, doi:10.1146/annurevchembioeng-060713-035938 (as cited in NRDC 2014 endnote 43).

of health effects, including respiratory, cardiovascular, and neurological harm, endocrine disruption, birth defects, cancer, burning eyes and skin irritation, headaches and nausea, and premature mortality.⁴¹ In addition, the greenhouse gases emitted contribute to climate change, which will have severe environmental impacts, but was not studied in the original EIR.

The noise, odors, night-time light, and traffic associated with oil operations all have serious environmental and health effects, and new studies have documented the severity of these impacts.⁴² The impacts of noise (grinding, drilling, blasting, flaring, running generators) and night-time light, for instance, can lead to stress and anxiety, hypertension, and cardiovascular and endocrine problems.⁴³ Truck traffic similarly contributes to noise and air pollution, as well as stress and anxiety.⁴⁴ In addition, a new study has found that oil and gas development lead to increase in traffic accidents in the area,⁴⁵ In addition to noise, air emissions, and congestion from increased traffic, such new information about safety must also be studied in a SEIR.

Additionally, new information is now known about the risks of oil and gas operations to and from earthquakes, as well as in causing adverse impacts from land subsidence. Known and unknown faults can be conduits for fluid migration.⁴⁶ In fact, the Federal Regulations require that all new Class II wells be sited “in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review.”⁴⁷ What is more, we now know more about how oil and gas activity itself, including from wastewater injection, can activate faults and trigger earthquakes.⁴⁸ As a

⁴¹ NRDC, 2014, pp. 6-7; Finkel, Madelon, et al., *Modern Natural Gas Development and Harm to Health: The Need for Proactive Public Health Policies*, ISRN Public Health, 2013, doi:<http://dx.doi.org/10.1155/2013/408658>

⁴² See generally, PSR Compendium of Findings, 2015, pp. 78-81.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ Texas A&M Transportation Institute, *Oil and Gas Energy Developments and Changes in Crash Trends in Texas*, Final Report, PRC 15-35 F (Oct. 2015).

⁴⁶ CCST Report, Vol. II, Ch. 2, pp. 125-126.

⁴⁷ 40 C.F.R. § 146.22(a). See also CCST Report, Vol. II, Ch. 2, p. 151 (“Site characterization requirements include a confining zone free of known open faults or fractures that separates the injection zone from underground sources of drinking water. . .”).

⁴⁸ See generally, PSR Compendium of Findings, 2015, pp. 81-95, describing the dozens of studies from the last five years documenting induced seismicity from injection and other well stimulation activities. See also, California Council on Science and Technology Lawrence Berkeley National Laboratory Pacific Institute, *Advanced Well Stimulation in California*, “Executive Summary” (August 28, 2014) (“2014 CCST Report”), pp. 41, 269-275, available at: <http://ccst.us/publications/2014/2014wstES.pdf>. Further study is needed as well. “[A]reas of the southern San Joaquin, Ventura, Santa Clarita and Santa Maria basins, where active water disposal wells are concentrated at present (Figure 5-10), have relatively high rates of seismicity in the 2-5 magnitude range. While undoubtedly most of these earthquakes are naturally-occurring, detailed study of the seismicity in relation to fluid injection will be needed to assess the likelihood that a proportion of the events in these areas are induced.” 2014

2014 scientific report noted, if "produced water is disposed of by injection and not handled through an expansion of water treatment and re-use systems, it could increase seismic hazards."⁴⁹ Even a small earthquake can compromise well integrity and other oil infrastructure, leading to water and soil contamination. Subsidence is similarly likely occurring at the AGOF due to the gradual dewatering of the reservoir.⁵⁰ Neither earthquakes nor subsidence was not evaluated in the 2004 EIR, but must be studied now.

In sum, we now have an overwhelming amount of new scientific information documenting impacts from oil and gas activity that were either underestimated or not known in 2004 when the County certified the original Phase IV EIR. We also now have far more information about the failures of the state and local agencies to effectively regulate and monitor oil and gas production, and of the potential for thousands of wells across the state to contaminate air, water, and soil. Local and state agencies are in the process of updating regulations to provide even the most basic protection for oil field neighbors and workers from the harmful effects of oil operations, as well as regulations regarding water scarcity due to the drought. Given all of these changes in circumstances and new information, the County--which represents the neighbors of the AGOF--cannot and must not issue or extend a CUP for the 31 wells without, at a bare minimum, preparing a SEIR.

III. The 31 Wells are Part of a Larger Project with Reasonable Foreseeable Future Phases, and Cannot be Piecemealed to Avoid CEQA Review

CEQA requires that an EIR identify all significant impacts on the environment of the "whole of action."⁵¹ Environmental review thus requires that a proposed project be analyzed along with reasonably foreseeable future phases or other action.⁵² In addition, applicants may not avoid environmental review "by chopping up proposed projects into bite-size pieces which, individually considered, might be found to have no significant effect on the environment or to be

CCST Report, pp. 275-6. *See also* Brodsky, Emily and Lisa J. Lajoie, *Anthropogenic Seismicity Rates and Operational Parameters at the Salton Sea Geothermal Field*, Science, vol. 341 (Aug. 2, 2013); Ellsworth, William, *Injection-Induced Earthquakes*, Science, vol. 341 (July 12, 2013); Clarke, D., et al., *Induced seismicity potential in energy technologies*, National Academies Press, 2012 (as cited in NRDC 2014, endnote 70).

⁴⁹ 2014 CCST Report, p. 41.

⁵⁰ FMOG aquifer exemption application, pp. 17, 21; CCST Report, Vol. II, Ch. 2, p. 124.

⁵¹ CEQA Guidelines §§ 15126.2(a) § 15378; *RiverWatch v. Olivenhain Mun. Water Dist.* (2009) 170 Cal.App.4th 1186.

⁵² *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.* (1988) 47 Cal.3d 376, 396.

only ministerial."⁵³ Indeed, CEQA requires that environmental considerations must not be hidden by separately focusing on isolated parts, overlooking the cumulative effect of the whole action, or attempting to avoid responsibility for considering the environmental impact of the project as a whole.⁵⁴

Here, the 31 wells are part of a much larger project that is being illegally piecemealed into bite-sized pieces to avoid an analysis of the impacts of the larger project. First, FMOG has explicitly said that the 31 wells are tied into its Phase V expansion. FMOG requests in its extension application for a three-year extension up to August 2018 "or until such time as a decision regarding FM O&G's pending CUP application for the Phase V Development of AGOF is made by the County."⁵⁵ FMOG further notes in its extension application that the extra three years to drill the 31 wells will "provide a seamless transition into FM O&G's proposed Phase V Development (if approved)."⁵⁶ FMOG is in the process of applying for a conditional use permit for its Phase V expansion project, which would increase oil production at the AGOF from the current approximately 1,350 barrels per day (bpd) of oil to up to 9,000-10,000 bpd--up to a nearly ten-fold increase in oil production.⁵⁷ The project would add 350 new wells and 100 replacement wells on 11 new well pads and 38 modified well pads, and will include both vertical and directional drilling.⁵⁸ In its initial study, the County of San Luis Obispo found that this project has the potential for significant impacts and impacts that require mitigation to, among other environmental resources: wildlife species and vegetation that are endangered or threatened by water degradation,⁵⁹ geology,⁶⁰ groundwater and hydrology.⁶¹ Given that the Phase V

⁵³ *Orinda Assn v. Board of Supervisors* (1986) 182 Cal.App.3d 1145, 1171.

⁵⁴ *Id.*; *Bozung v. LAFCO* (1975) 13 Cal.3d 263, 283.

⁵⁵ Phase IV CUP Extension, *Attachment A: Project Description*, available at: http://www.slocounty.ca.gov/Assets/PL/referrals/south+county/DRC2015-00002_FREEPORT-MCMORAN_CUP_MODIFICATION.pdf.

⁵⁶ *Id.*

⁵⁷ Freeport MacMoRan, *Application for Aquifer Exemption, Arroyo Grande Oilfield* ("FM Application"), p. 3; Phase V Initial Study, p. 2; San Luis Obispo County Department of Planning and Building, *Scoping Meeting Presentation* (Feb. 19, 2014), available at: <http://www.slocounty.ca.gov/Assets/PL/environmental/plains/Environmental/Scoping+Meeting/Presentation+2-19-14.pdf>.

⁵⁸ Phase V Initial Study, p. 2.

⁵⁹ Phase V Initial Study, pp. 13-18. *See also* California Department of Fish and Wildlife, *Letter in Review of the Phase V Environmental Impact Report Notice of Preparation* (January 8, 2013), available at: [http://www.slocounty.ca.gov/Assets/PL/environmental/plains/Environmental/Notice+of+Preparation+\(NOP\)/Responses+Received/CADFW.pdf](http://www.slocounty.ca.gov/Assets/PL/environmental/plains/Environmental/Notice+of+Preparation+(NOP)/Responses+Received/CADFW.pdf).

⁶⁰ Phase V Initial Study, pp. 21-22.

⁶¹ Phase V Initial Study, pp. 41-48.

expansion is currently undergoing environmental review (hence, it is more than a "reasonably foreseeable" future phase), and given that the County cannot extend the CUP without first requiring a SEIR, perhaps the County should instead analyze the 31 wells in the Phase V EIR and (if the County so chooses) approve the CUP for these wells then.

Second, last year, the County approved a massive pipeline to run from the AGOF to Phillips 66 Santa Maria refinery, which would accommodate the Phase V expanded production.⁶² The County approved this pipeline, which travels down residential streets and over several waterways, based only on a negative declaration and with a minor use permit.⁶³ In other words, by separating this project from the larger expansion of production (and sales) at the oil field, Phillips 66 and FMOG improperly skirted the requirements of CEQA.

Third, FMOG is in the process of requesting from DOGGR, the State Water Resources Control Board, and US EPA an aquifer exemption to allow FMOG to inject wastewater into an aquifer that is currently protected under the Safe Drinking Water Act.⁶⁴ As noted above, at present, FMOG has at least eight injection wells operating in the protected aquifer. FMOG has requested that the DEIR for the Phase V expansion be put on hold until the aquifer exemption process is complete.⁶⁵ In order to try to legitimize what is currently illegal and accommodate the planned expansions, FMOG is looking to this exemption process to help facilitate the increased volumes of produced water. Thus, this exemption project, too, is intricately tied to the 31 wells, the pipeline, and the Phase V expansion, and severing it from the rest of the project has allowed FMOG to unlawfully evade the requirements of CEQA. The County must not condone or assist FMOG's actions to evade public review and disclosure of the impacts of its massive planned expansion at the AGOF by extending the CUP to allow FMOG to construct the 31 wells.

III. Conclusion

Although the 31 wells were part of the AGOF Phase IV expansion plan, under the County Code and CEQA, new environmental conditions and scientific knowledge about the impacts of oil and gas activities require that the County reject FMOG's three-year extension request. Rather,

⁶² San Luis Obispo County, *Negative Declaration and Notice of Determination, Phillips 66 5.6 Mile Pipeline; Minor Use Permit; DRC2012-00101* (Sept. 25, 2014).

⁶³ *Id.*

⁶⁴ FMOG aquifer exemption application.

⁶⁵ Phase V Conditional Use Permit (DRC2012-00035) Ongoing Status Report, *available at*: <http://www.slocounty.ca.gov/Assets/PL/environmental/plains/OngoingStatusReport.pdf>.

the County must evaluate the proposed project under CEQA by requiring either a SEIR or review in the Phase V EIR before deciding whether to approve the construction of these wells. Indeed, the 31 wells is really part of a much larger project to expand production and sales at the AGOF, and must be analyzed as part of this activity. The agencies responsible for protecting California's residents from the harmful impacts of oil and gas drilling and extraction activities have fallen asleep at the wheel. It's time for the County step up and protect the public health and beautiful environment of San Luis Obispo County.

Sincerely,

/s/

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